

# Selected Topics from INT

“Precision beats variety” - R. Rapp

- $v_2$  and  $R_{AA}$  vs.  $p_T$  and centrality
- yields and spectra
- chemistry



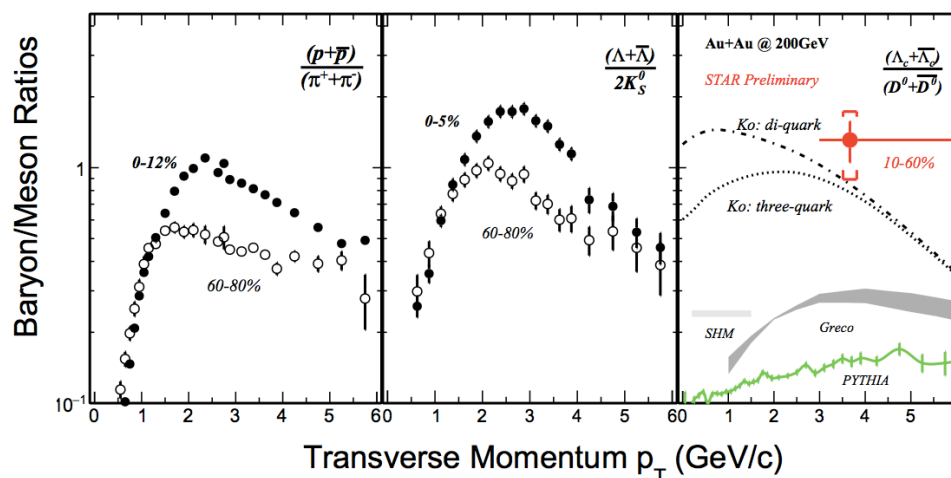
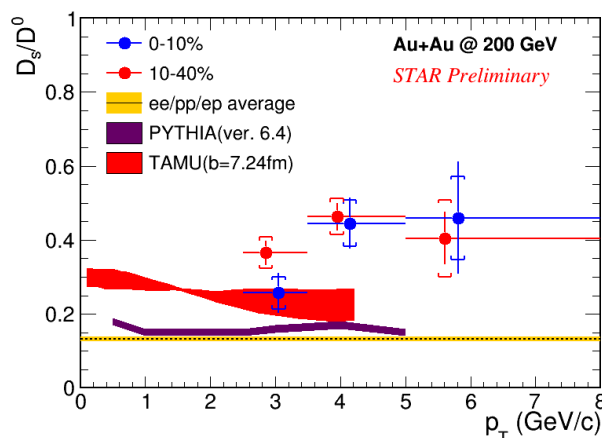
# Charm Chemistry

$$2\sigma_{c\bar{c}} = D^0 + D^+ + D_s^+ + \Lambda_c^+ + \text{c.c.}$$

60.8% 24.0% 8.0% 6.2% *M Lisovsky, et. al. EPJ C 76, 397 (2016)*

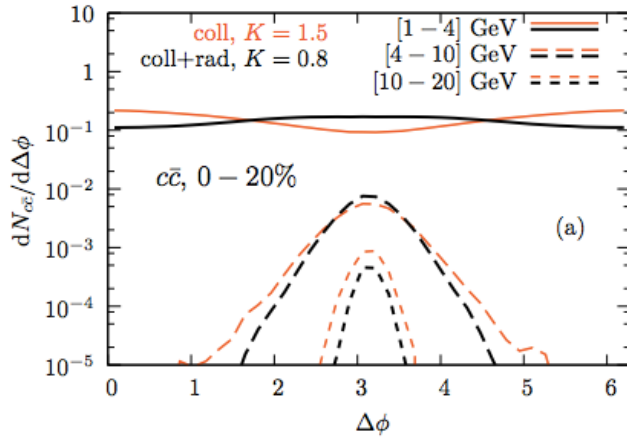
$D^{*0}$ , mass = 2007 MeV,  $\rightarrow D^0$  (1865) +  $X$ , 100%  
 $\rightarrow D^+$  (1869) +  $\pi^-$  0% (forbidden due to mass threshold)  
 $D^{*+}$ , mass = 2010 MeV,  $\rightarrow D^0$  (1865) +  $\pi^+$ , 68%,  
 $\rightarrow D^+$  (1869) +  $\pi^0$ , 31%

- 1) Medium modification of resonance structures
  - $D^*/D^0$ ,  $D^+/D^0$  ratios may be modified in heavy ion collisions
- 2) Coalescence hadronization
  - $D_s/\Lambda_c$  enhancement in heavy ion collisions

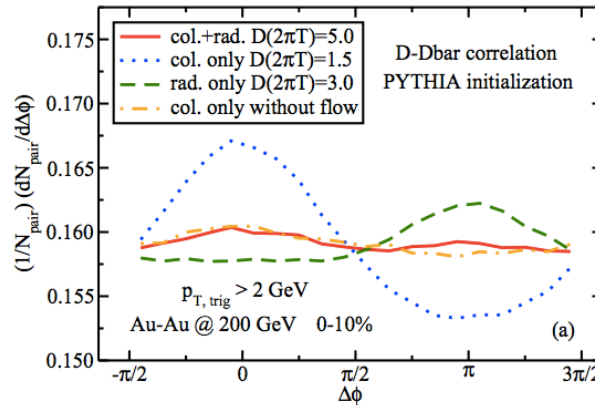


# Charm Correlation

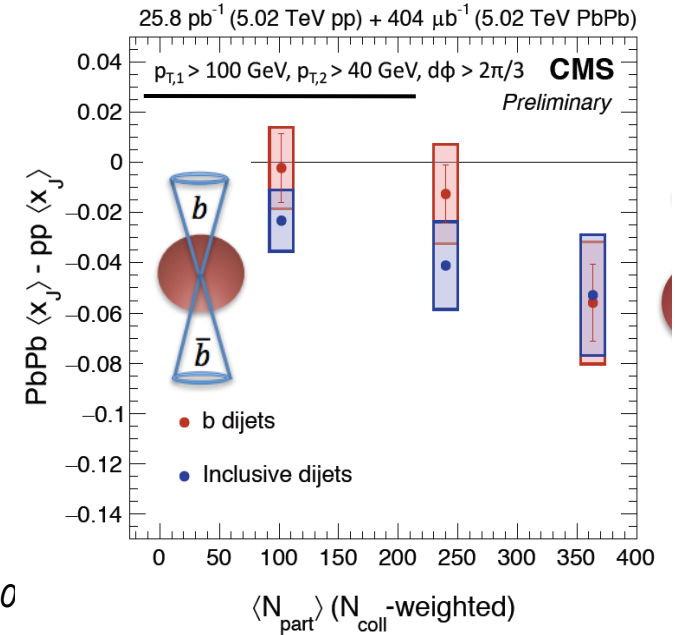
## Transport model calculations



M. Nahrgang et al, PRC 90 (2014) 024907

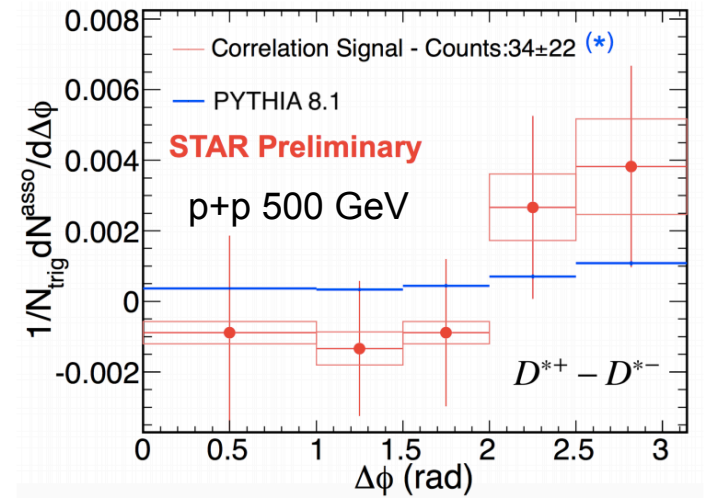


S.S.Cao et al, PRC 92 (2015) 05490



More sensitive to energy loss mechanisms  
Complementary measurement to address medium properties

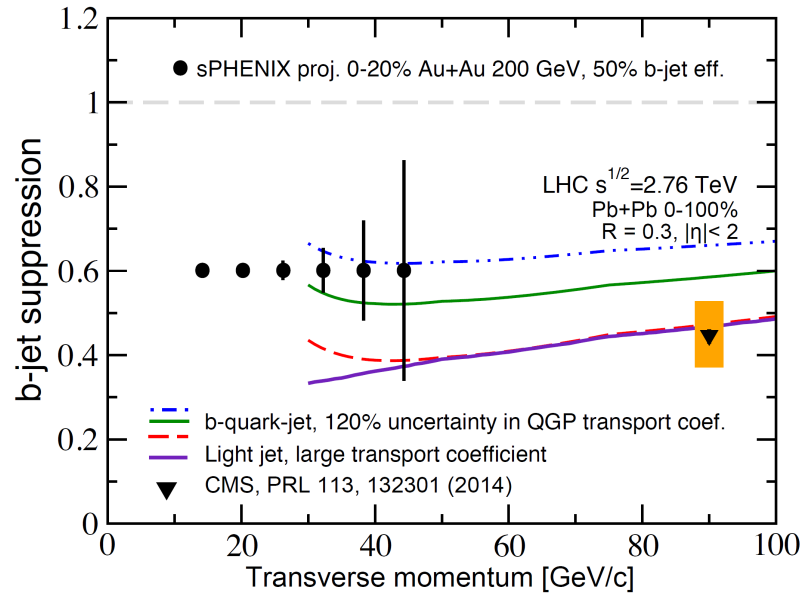
Experimentally direct D-Dbar correlation at low-intermediate pT - very attractive technically  
- also explore many other proxy channels (D-e, D-K etc.)



backup

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# Money Plots for MVTX



Open bottom production at midrapidity over a broad momentum region

- B-meson  $< 15$  GeV/c
- b-jet  $> 15$  GeV/c

vs. LHC

- Complementarity - different QGP media
- Uniqueness - less gluon splitting

